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RECENT WORK AMONG THE BORERS.

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Since the publication in the September, 1905, number of this journal of my paper entitled "New Gortynas," a number of papers dealing with the same group of moths have appeared, which were naturally of great interest to me.

In the March, 1907, number of the Journ. N. Y. Ent. Soc. appeared a paper by Dr. H. G. Dyar, in which a new species was described under the name *Hydræcia stenocelis*, that author apparently using the names *Hydræcia*, *Papaipema* and *Gortyna* interchangeably.

The type of this species I saw during a recent visit to Washington, and it is certainly a very distinct species, which could not be confounded with any other form at present known.

But the papers of most interest to me were those which appeared in the August and September, 1907, numbers of this journal, from the pen of Mr. H. Bird. In these papers the author has described a number of very interesting species, and made a very considerable addition to our knowledge of this group, in which he has for years done so much good work.

Mr. Bird very truly says that the working out of life histories in this genus is a greater contribution to entomological knowledge than the mere description of new forms, and this, I take it, would equally apply in the case of most other genera. But Mr. Bird would not suggest that a species should not be described unless its life history had been previously unravelled, as he has himself described several species of which the early stages are unknown. Moreover, the conditions in this group are very different from those in most other genera, because these having boring larvæ, it is generally easier to find the larvæ than the moths, and in many cases the determination of the moths is difficult unless they have been bred.

In the September number Mr. Bird described the species boring in *Pteris aquilina* under the name *pterisii*. This species I have had represented in my collection by a single specimen taken by one of our

Montreal collectors in 1903, and I was convinced of its distinctness, but refrained from describing it from a single flown specimen, even though in good condition. In 1904 Mr. Winn bred a single perfect specimen from the Brake, which confirmed my belief in its distinctness, but Mr. Winn submitted his specimen to Mr. Bird, who pronounced it *purpurifascia*. It was also bred at Ottawa by some of the Ottawa entomologists, and on being submitted to Mr. Bird, he wrote that he knew the form "like a book," and that it was only a variety of *Harrisii*, and under that name it was listed in Dr. Fletcher's "Record." I tried to obtain the material to breed these three forms side by side, but before I succeeded Mr. Bird's description appeared.

It matters little who describes a species so long as it is well done, and I know of no one better qualified for the task than Mr. Bird, who has made himself so thoroughly master of this group. I cannot, however, congratulate him upon the name chosen. It was, perhaps, not unnaturally supposed that the name was intended in some way to indicate the food-plant, as in the case of *baptisiae*, *thalictri* and *eupatorii*, but upon objection being made that the genitive of *pteris* should be *pteridis*, the author wrote that it was quite a mistake to suppose that the name was intended to indicate the food-plant, and that the species was dedicated to his pet cat which rejoices in the name *Pterisius*, and that those who spell *Harrisii* with a capital should do the same in the case of *Pterisii*. One may, perhaps, be pardoned for objecting, that, while this may satisfactorily account for the derivation of the name of the moth, the derivation of the name of the immortal cat remains obscure, but fancy bracketing Thaddeus William Harris with a cat! "That yellow, sickly brake" may or may not indicate the presence of this species, as I have examined more that had not been bored than that had. My experience with the larva has been limited to one season, but I have not found it especially parasitized, as out of five or six mature larvæ found, I obtained four moths.

Mr. Bird's statements in regard to my *Gortyna arata* appear to me a little misleading. It was not I who referred it as a synonym of *nelita*, Strecker, but Dr. J. B. Smith, on account of which I made a special pilgrimage to Reading to see the types of Dr. Strecker's species, and not being able to discover any apparent difference beyond what might be expected between flown and bred material, and not being one of those

who will never admit making a mistake, I reluctantly accepted Dr. Smith's reference, which, through the discovery by Mr. Bird of the true *nitela*, has been shown to have been erroneous.

Mr. Bird calls my statement that the usual longitudinal lines in the larva of *ærata* are all continuous "meagre," and suggests that as Burdock, from which I bred it, is very generally bored by *cataphracta*, the question may be open to possible error. Had I only found a larva which I supposed to be that of *ærata*, Mr. Bird's suggestion would be warranted, but seeing that I have bred the moth repeatedly from these larvæ, there is no peradventure in the matter. I have bred this form in four different years, and have secured thirteen moths, of which my six types and three other specimens are still in my collections, and the others have been presented by me to Mr. Bird, Dr. Fletcher, the British Museum and the National Museum at Washington, and I have an inflate of the larva kindly made for me by Mr. Gibson. My statement was merely made to show that it could be separated at a glance from the larva of *rutila* with which it was associated.

Mr. Bird refers to Burdock being frequently bored by *cataphracta*, and that is the case at Ottawa where *rutila* has not yet been found, but *cataphracta* has never been found boring in Burdock here, and was not known to occur here until I bred it from *Eupatorium purpureum*. When I found the larva in that plant, I thought I had discovered another new species, being misled by Mr. Bird's erroneous statement* that the larva is almost identical in markings with that of *nitela*, which he described as having the subdorsal lines absent from the first four abdominal segments, but on obtaining larvæ of *cataphracta* in Burdock from Ottawa from Mr. Gibson, I found that they were identical with mine from the *Eupatorium*.

Ærata I have only found in one limited locality in Westmount, a suburb of Montreal, and its existence there is threatened every year through the abominable practice of the municipal authorities of having the Burdocks along the edge of the street cut down, and its existence so far is probably due to its habit of boring in the lower part of the stalk, as I have sometimes found *rutila* boring in the upper part of the stalk and *ærata* in the lower part.

The following description of the larva of *ærata* was made on the 14th July, 1907, from a larva found boring in Burdock, near the root, on that date, the larva being apparently about half-grown.

*Can. Ent., XXX., 129.

Length at rest 13-16 inch, in motion 15-16 inch. Head yellow brown, with a purplish brown line running down each side, being apparently the prolongation of the band of same colour below the subdorsal whitish stripe, and on it are the ocelli, but in some individuals this line is obscure. Cervical shield large, practically covering the whole of the first thoracic segment, yellowish, lighter than the head, edged on each side with purplish brown, the continuation of that shade below the subdorsal whitish line.

Colours of body practically the same as in *rutila*, being purplish brown, with dorsal and subdorsal pale cream colour or whitish stripes, which are not broken in any part, but are continuous from head to tail. The purplish brown of the first four abdominal segments has the appearance of being deeper in colour than on the rear segments, but this is partly owing to the whitish stripes being narrower on these segments than on those behind them. Warts strongly marked, darker than the purplish-brown ground colour, IV on the seventh abdominal segment being slightly above the level of the spiracle, setæ simple. Anal shield large, yellowish like the cervical shield.

On receipt of the specimen of *ærata* which I sent to the British Museum, Sir George Hampson wrote me that he considered it an unmarked form of *limpida*, Gn., but it appears to me that this must be at least doubtful until more is known of *limpida*, the types of which came from Illinois, especially as that species is not known to have an unmarked form, and in view of the extreme closeness of some of the species, as shown by some of Mr. Bird's more recent discoveries.

Mr. Bird next dealt with the forms which I described as *thalictri* and var. *peroboleta*, pronouncing the latter identical with *frigida*, Smith, on the ground that there was "nothing in the description and nothing in the types, except the usual difference between flown and bred material" to separate the forms. I may be permitted to point out that it was on precisely identical grounds that my *ærata* was pronounced a synonym of *nelita*, Strecker, as we now know, through Mr. Bird's discovery, erroneously. Mr. Bird points out that in Dr. Smith's plates representing genital armature* Fig. 25 was supposed to be that of *cerussata*, while Fig. 26 represented *frigida*, Sm., and says that afterwards No. 25 was found not

*Trans. Amer. Ent. Soc., XXVI., pl. I., II.

to agree with the structure of the true *cerussata*, but was later found to agree closely with that of my *thalictri*, which he considers a proof that *thalictri*, Lyman, and *frigida*, Smith, are identical. I may say that in examining Dr. Smith's specimens before publishing my description of *thalictri*, I recognized a specimen of that form standing among his specimens of *cerussata*, but I may be permitted to point out that while these two figures, 25 and 26, are similar, they are still distinctly different, and were regarded by Dr. Smith as representing distinct species.

In reference to the great similarity of *cerussata* and *thalictri* which deceived Dr. Smith, I may mention that perfect bred specimens of the latter, some of which were afterwards used by me as types, were submitted by me and other Canadian entomologists to Mr. Bird, and in every case were pronounced by him *cerussata* "without any doubt," and that this opinion was maintained by him till I proved their distinctness. In view of these facts, his statement that "their resemblance to *cerussata* is striking for a species whose larvæ differ so obviously, and it is likely that flown examples of the one could easily be mistaken for the other," is, to say the least, refreshing in midsummer weather.

Mr. Bird's contention that if var. *perobsoleta* and *frigida* are identical there is no need of the name *thalictri* for the white-marked form, I consider absurd. The cases he brings forward of the differences between specimens of *speciosissima*, *Harrisii*, *inquæsita* and *purpurifascia* are in no sense parallel, as those differences are so slight as not to deceive anyone, and intergrades also exist, while no one who did not know that *thalictri* and *perobsoleta* belonged to the same species would have had any hesitation in describing them as distinct, and as far as known no intergrades exist, the case being exactly parallel to that of *nitela* and *nebris*, as Mr. Bird has admitted in correspondence. As long, therefore, as the names *nitela* and *nebris* both stand, so long will *thalictri* stand for the form to which I applied it. Dr. Fletcher having submitted to Sir George Hampson two specimens from Manitoba which he thought might be the true *frigida*, Sir George, on comparing them with a coloured drawing of the type of *frigida*, pronounced them the same, and quite distinct from *thalictri*. Being extremely interested in the matter, I made a trip to Washington, primarily to settle this question, taking with me types of *thalictri* and var. *perobsoleta* and the best one of Dr. Fletcher's specimens. On the first glance I thought Sir George's determination

correct, as in colour and general appearance they agreed, but on a close study I was forced to agree with Dr. Dyar that they were distinct, as the course of the t. p. line in Dr. Fletcher's specimen was different.

As to the type of *frigida*, I could not say that it was identical with my *perobsoleta* on account of its very poor and worn condition, nor, from the same cause, could I pronounce it distinct. The course of the t. p. line seems identical, and I admit that they may probably be the same, but at the same time Mr. Bird has demonstrated that there are a number of cases in this group where distinct species could not be separated if in as poor condition as is the type of *frigida*, and I think it a pity that a species should be founded on a single specimen in such poor condition.

On my return home I reported the results of my examination to Dr. Fletcher, and suggested his describing his specimen as a new species, but he declined to do so, but added that I was welcome to do it, and to keep the type, and I, therefore, describe it as follows :

Gortyna Aweme, n. sp.

Alar expanse, 33 mm. Primaries, what Guenée called "gris-incarnat" (grayish flesh-colour), very similar in tone to those of *immanis*. Base of wing light brown, beyond which between the basal and t. a. lines there is a darker transverse shade, most distinct on the costa, and not reaching the inner margin. The t. a. line runs first almost at right angles to the costa, then curves inward and then outward, not quite reaching the inner margin. The t. p. line is strongly curved outwardly around the reniform, and then sweeps down to the inner margin, meeting it about at right angles. The orbicular is very small, even minute, and consists of a dark brown ring with light centre, the claviform is obsolete, the reniform is shaped like the figure 8, but is solid dark brown.

The median shade is bent almost at a right angle, the apex of the angle touching the lower lobe of the reniform, whence a dark shade strikes inwardly almost to the orbicular and a little below it. The dark colour of the t. p. line runs out a little on the nervures, and the space between the t. p. and s. t. lines has a slight tinge of mauve, which runs up to the apex. The s. t. line is not very distinct, and the space beyond it and below the apex is dark brown, which shade fades out towards the hind angle. Secondaries decidedly lighter than in *immanis*, so that there is more contrast with the primaries than in that species, and there is a faint and incomplete waved line partially crossing the centre of the wing.

Below, the wings are light in colour, slightly darker on the costa of both primaries and secondaries, and the former have a dark shade on outer margin and an indistinct transverse bar representing the reniform above. Secondaries without any markings. Type, 1 ♀ taken by Mr. Norman Criddle at Aweme, Man., in my collection.

At Washington I also made the following notes on the types of species recently described by Dr. Dyar :

Gortyna nepheloptena agrees with a form taken at Ottawa by Dr. Fletcher and pronounced *marginidens* by Sir George Hampson, and "near" that species by Dr. J. B. Smith.

Gortyna nephasyntheta appeared to me to be probably a worn *marginidens*, with reniform a trifle more solidly white than usual.

Gortyna anargyrea comes very near to *pterisii*, but the stigmata are yellow-brown instead of white.

Gortyna triorthia is *pterisii*, Bird, as admitted by Dr. Dyar.

Gortyna ochroptena is much like a washed-out *serrata*, but the white markings are smaller.

I also saw a co-type of *duplicatus*, Bird, described in the last January number of this journal, but the author cannot be congratulated on this name, as the feminine form *duplicata* would have been more appropriate.

CORRECTION.—If allowable, I should like to make the following correction in my paper on "New Histories and species in *Papaipema* (*Hydroecia*)" in the January number: page 25, line 27 and page 28 line 35, for *duplicatus* read *duplicata*.—HENRY BIRD, Rye, N. Y.

IGNOTUS ÆNIGMATICUS.

CORRECTION.—By some oversight, the name of MR. FREDERICK BLANCHARD was omitted on page 214 (July number). It should have been inserted after the title "The Characters of *Ignotus*," as this portion of the paper, as far as the middle of page 219, was contributed by him, at the request of Mrs. Slosson, the writer of the article, "A Bit of Contemporary History," and of the description of the species *ænigmaticus*. Mrs. Slosson has written to the Editor, expressing her great regret that she did not observe this omission when reading the proof of the article. She is anxious that the fullest credit should be given to Mr. Blanchard, who so kindly prepared the careful diagnosis of the characters of this remarkable insect.